

CLAIMS

1. An epilepsy model animal (CHRNA4:S284L) developing spontaneous epileptic seizure during sleep, which is a nonhuman animal established by ontogenesis of a totipotent cell into which a polynucleotide encoding nonhuman mutant CHRNA4 is introduced and having said polynucleotide in its somatic chromosome, or a progeny of the nonhuman animal,

wherein said nonhuman mutant CHRNA4 has the corresponding mutation of human mutant CHRNA4 in which the 284th Ser of SEQ ID NO: 1 is substituted by Leu.

2. The epilepsy model animal (CHRNA4:S284L) of claim 1, wherein the polynucleotide encoding the nonhuman mutant CHRNA4 is fused with a polynucleotide corresponding to a promoter region of a gene specifically expressing in cerebrum cortex and hippocampus.

3. The epilepsy model animal (CHRNA4:S284L) of claim 1 or 2, wherein the nonhuman animal is a rat, and the polynucleotide encodes rat mutant CHRNA4 having the nucleotide sequence of SEQ ID NO: 2 in which the 865th c is substituted by t, and the 866th t is substituted by c.